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EXAMINER

EWART, JAMES D

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/839,499

Applicant(s)

STRUHSAKER, PAUL F.

Examiner

James D. Ewart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/27/2006 amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed December 27, 2006 have been fully considered but they are not persuasive. Applicant argues that the cited references do not teach that the fixed-site base station and the first and second fixed-site subscriber stations communicate wirelessly. Lerman teaches the fixed-site base station and the first fixed-site subscriber station communicate wirelessly. Figure 3 of Lerman shows wireless communication between the mobile phone (38) and the second converter (44). The second converter (44) simply does a frequency conversion and sends the signal wirelessly to the fixed-site base station. In addition, Lerman states in Column 3, Lines 25-29 that: "Consequently, a need has developed to provide a wireless local loop system and method as referenced above which may be practically and economically implemented for use by single and multi-family dwellings and multi-use building environments." Indicating a plurality of fixed-site subscriber stations that communicate wirelessly with a fixed-site base station.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Lerman (U.S. Patent No. 5,604,789).

Referring to claim 21, Lerman teaches an apparatus comprising: a first local network radio transceiver positioned at a first fixed-site, fixed wireless access (FWA) communication system subscriber station (Figure 3, 44 and F(2ND)) communicating wirelessly with a fixed-site, fixed wireless access communication system base station (Figure 3, F(CONVERSION)), the fixed-site, fixed wireless access communication system base station communicating wirelessly with a plurality of fixed-site, fixed wireless access communication system subscriber stations (Column 3, Lines 25-29), wherein the first local network radio transceiver, when a mobile station is positioned within a selected range of the first fixed-site subscriber station, receives first wireless signals representative of first communications signals from the fixed-site base station (Figure 3, F(CONVERSION) downlink) and selectively transmits second wireless signals representative of the first communication signals to the mobile station (Figure 3, F(2ND) downlink) and receives third wireless signals representative of second communications signals from the mobile station (Figure 3, F(2ND) uplink) and selectively transmits fourth wireless signals representative of the second communications signals to the fixed-site base station (Figure 3, F(CONVERSION) uplink).

Referring to claim 22, Lerman further teaches further comprising: a first large area network radio transceiver positioned at the first fixed-site subscriber station (Column 1, Lines 35-37, Figure 3, 44 & F(CONVERSION)), the large area network transceiver receiving the first wireless signals (Figure 3, 44 & F(CONVERSION) downlink) and transmitting the fourth wireless signals upon a large area radio link (Figure 3, 44 & F(CONVERSION) uplink) between

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the fixed-site base station and the first fixed-site subscriber station (Figure 3), wherein the first local network radio transceiver is coupled to the large area network radio transceiver (Column 2, Lines 58-60 & Column 7, Lines 41-42) such that the first communication signals from the fixed-site base station, communicated as the first wireless signals upon the large area radio link and received at the large area network radio transceiver (Figure 3, 44 & F(CONVERSION) downlink), are routed to the first local area network transceiver to be communicated as the second wireless signals to the mobile station upon a local radio link between the first fixed-site subscriber station and the mobile station (Figure 3, 44 & F(2ND) downlink).

Referring to claim 23, Lerman further teaches wherein the second communication signals from the mobile station, communicated as the third wireless signals upon the local radio link to the first local network transceiver (Figure 3, 44 & F(2ND) uplink), are routed to the large area network transceiver to be communicated as the fourth wireless signals upon the large area radio link to the fixed-sited base station (Figure 3, 44 & F(CONVERSION) uplink and Column 2, Lines 58-60 & Column 7, Lines 41-42).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-10, 16, 17 and 19 are rejected under 35 USC 103(a) as being unpatentable over Lerman (EP 0690638) in view of Holland et al. (U.S. Patent No. 5,673,307).

Referring to claims 1, 5, 16 and 19, Lerman teaches in a fixed wireless access (FWA) communication system having at least first fixed-site base station (Figure 3, within dashed lines) and at least first and second fixed-site subscriber stations (Figure 3; 40 and Column 3, Lines 48-53) each capable of wirelessly communicating with the first fixed-site base station (Figure 3; 40 and Column 4, Lines 3-11), an apparatus for facilitating radio communication with a mobile station (Column 1, Lines 10-20), said apparatus comprising: a local-network radio transceiver positioned at each of the at least first and second fixed-site subscriber stations (Figure 3, 44) said local network radio transceiver for transceiving communication signals representing wireless communication of the fixed-site base station with the mobile station (Column 3, Lines 48-53) upon a local radio link formed between the respective local-network radio transceiver and the mobile station (Figure 3, F(2nd)) when the mobile station is positioned within a selected range of the first fixed-site subscriber station at which the respective local-network radio transceiver is positioned (Column 8, Lines 3-7) and further teaches providing cellular services within a building (Column 4, Lines 1-11), but does not teach handing off to the other local-network radio transceiver when the mobile station moves outside the selected range of the fixed-site subscriber station at which the respective local-network radio transceiver is positioned but with the selected range of the other fixed-site subscriber station at which the other local-network radio transceiver is positioned. Holland et al. teaches handing off to the other local-network radio transceiver when the mobile station moves outside the selected range of the fixed-site subscriber station at

which the respective local-network radio transceiver is positioned but with the selected range of the other fixed-site subscriber station at which the other local-network radio transceiver is positioned (Column 1, Lines 2-31, Column 3, Lines 47-56 and Figure 1). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman with the teaching of Holland et al. of handing off to the other local-network radio transceiver when the mobile station moves outside the selected range of the fixed-site subscriber station at which the respective local-network radio transceiver is positioned but with the selected range of the other fixed-site subscriber station at which the other local-network radio transceiver is positioned to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Referring to claims 2 and 17, Lerman further teaches wherein the first and second fixed-site subscriber station includes a large-area-network transceiver positioned thereat for transceiving wireless communication signals upon a large-area radio link with the fixed-site base station (Figure 3, F(CONVERSION) and Column 4, Lines 3-11) and wherein said first local-network radio transceiver is coupled to the large area-network transceiver such that communication signals generated at the fixed-site base station, communicated upon the large-area radio link and received at the large-area-network transceiver, are routed to said local-area-network transceiver to be communicated to the mobile station upon the local radio link (Figure 3).

Referring to claim 3, Lerman further teaches wherein communication signals generated at the mobile station and communicated upon the local radio link to said local-network transceiver are routed to the large-area-network transceiver to be wirelessly communicated upon the large-area radio link to the fixed-sited base station (Figure 3).

Referring to claim 6, Holland et al further teaches wherein said first local-network transceiver defines a first cellular area within which the mobile station is capable of transceiving the communication signals with said first local-network transceiver and wherein said second local-network transceiver defines a second cellular area within which the mobile station is capable of transceiving the communication signals with said second local-network transceiver (Column 1, Lines 2-31, Column 3, Lines 47-56 and Figure 1). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman and Holland et al. with the additional teaching of Holland et al. wherein said first local-network transceiver defines a first cellular area within which the mobile station is capable of transceiving the communication signals with said first local-network transceiver and wherein said second local-network transceiver defines a second cellular area within which the mobile station is capable of transceiving the communication signals with said second local-network transceiver to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Referring to claim 7, Holland et al further teaches wherein the first cellular area defined by said first local-network transceiver and the second cellular area defined by said second local-

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network transceiver at least partially overlap (Figure 2 and Column 1, lines 54-64) and wherein selection is made of with which one of said first and second local-network transceivers, respectively, that the mobile station communicates responsive to determination of at least one communication parameter (Column 3, Lines 34-36). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman and Holland et al with the additional teaching of Holland et al. wherein the first cellular area defined by said first local-network transceiver and the second cellular area defined by said second local-network transceiver at least partially overlap and wherein selection is made of with which one of said first and second local-network transceivers, respectively, that the mobile station communicates responsive to determination of at least one communication parameter to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Referring to claim 8, Holland et al further teaches wherein the at least one communication parameter responsive to which selection is made of with which one of said first and second local-network transceiver that the mobile station communicates comprises a signal quality parameter (Column 3, Lines 34-36). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman and Holland et al. with the additional teaching of Holland et al. wherein the at least one communication parameter responsive to which selection is made of with which one of said first

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and second local-network transceiver that the mobile station communicates comprises a signal quality parameter to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Referring to claim 9, Holland et al further teaches at least one communication parameter responsive to which selection is made of with which one of said first and second local-network transceivers that the mobile station communicates wherein the parameter is load related (Column 5, Lines 15-20). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman and Holand et al with the additional teaching of Holland et al wherein at least one communication parameter responsive to which selection is made of with which one of said first and second local-network transceivers that the mobile station communicates wherein the parameter is load related to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Referring to claim 10, Holland et al further teaches wherein the mobile station is permitted movement at least between the first cellular area and the second cellular area and wherein communication hand-offs are performed between said first local-network transceiver and said second local-network transceiver responsive to movement of the mobile station between the first cellular area and the second cellular area defined by said first local-network transceiver and said second local-network transceiver, respectively (Column 1, Lines 27-31 & Column 5, Lines 9-20). Therefore at the time the invention was made, it would have been obvious to a

person of ordinary skill in the art to combine the teaching of Lerman and Holland et al. with the additional teaching of Holland et al wherein the mobile station is permitted movement at least between the first cellular area and the second cellular area and wherein communication hand-offs are performed between said first local-network transceiver and said second local-network transceiver responsive to movement of the mobile station between the first cellular area and the second cellular area defined by said first local-network transceiver and said second local-network transceiver, respectively to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

4. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Lerman and Holland et al. in view of Moldavsky et al. (U.S. Patent No. 5,115,463) and further in view of Chewning, II et al (U.S. Patent No. 5,416,831).

Referring to claim 4, Lerman and Holland et al. teach the limitations of claim 4, but do not teach that the transceivers are located within a rack assembly wherein transceivers are card-mounted. Moldavsky et al. teaches that the transceivers are located within a rack assembly wherein transceivers are card-mounted (Column 12, Lines 38-53). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Lerman and Holland et al. with the teaching of Moldavsky et al. wherein the transceivers are located within a rack assembly wherein transceivers are card-mounted to limit the production of intermodulation products to FCC acceptable limits (Column 11, Lines 42-43). Lerman, Holland et al. and Moldavsky et al. teach the limitations of claim 4, but do not teach

connecting cards to an expansion slot. Chewning, II et al teaches connecting cards to an expansion slot (Column 13, Lines 39-43). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Lerman, Holland et al. and Moldavsky et al. with the teaching of Chewning, II et al of connecting cards to an expansion slot to establish a connection with a bus (Column 13, Lines 40-41).

5. Claim 11-15 & 20 are rejected under 35 USC 103(a) as being unpatentable over Lerman in and Holland et al. and further in view of St-Pierre et al (U.S. Patent No. 5,901,352).

Referring to claims 11 and 20, Lerman and Holland et al teach the limitations of claims 11 and 20, but do not teach a routing map coupled to the at least the first fixed-site base station, said routing map containing an indication of in which of the first cellular area and the second cellular area that the mobile station is positioned. St-Pierre et al. teaches a routing map coupled to the at least the first fixed-site base station, said routing map containing an indication of in which of the first cellular area and the second cellular area that the mobile station is positioned (Column 23, Lines 31-35). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Lerman and Holland et al with the teaching of St-Pierre et al. wherein a routing map is coupled to the at least the first fixed-site base station, said routing map containing an indication of in which of the first cellular area and the second cellular area that the mobile station is positioned to consolidate and manage multiple networks and associated services in a more efficient and centralized manner (Column 2, Lines 20-23).

Referring to claim 12, St-Pierre et al. further teaches wherein the at least the first fixed-site base station is connected to an access processor and wherein said routing map is located at the access processor (Column 2, Lines 54-64). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman, Holland et al and St-Pierre et al. with the additional teaching of St-Pierre et al. wherein the at least the first fixed-site base station is connected to an access processor and wherein said routing map is located at the access processor to consolidate and manage multiple networks and associated services in a more efficient and centralized manner (Column 2, Lines 20-23).

Referring to claim 13, St-Pierre et al. further teaches wherein the indication of in which cellular area that the mobile station is located is updated responsive to changes in location of the mobile station (Column 1, Lines 59-65). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman, Holland et al and St-Pierre et al. with the additional teaching of St-Pierre et al. wherein the indication of in which cellular area that the mobile station is located is updated responsive to changes in location of the mobile station to consolidate and manage multiple networks and associated services in a more efficient and centralized manner (Column 2, Lines 20-23).

Referring to claim 14, St-Pierre et al. further teaches wherein routing of communication signals to the mobile station is selected responsive to values of the indication contained thereat (Column 1, Lines 50-67 & Column 2, Lines 54-64). Therefore at the time the invention was

made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman, Holland et al and St-Pierre et al. with the additional teaching of St-Pierre et al. wherein routing of communication signals to the mobile station is selected responsive to values of the indication contained thereat to consolidate and manage multiple networks and associated services in a more efficient and centralized manner (Column 2, Lines 20-23).

Referring to claim 15, St-Pierre et al. further teaches wherein, subsequent to updating of the values of the indication contained thereat, and responsive to hand-off of communications between said first local network radio transceiver and said second local-network radio transceiver, undelivered communication signals are rerouted according to updated values of the indication (Column 1, Lines 50-67 & Column 2, Lines 54-64). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman, Holland et al and St-Pierre et al. with the additional teaching of St-Pierre et al. wherein, subsequent to updating of the values of the indication contained thereat, and responsive to hand-off of communications between said first local network radio transceiver and said second local-network radio transceiver, undelivered communication signals are rerouted according to updated values of the indication to consolidate and manage multiple networks and associated services in a more efficient and centralized manner (Column 2, Lines 20-23).

6. Claims 24 is rejected under 35 USC 103(a) as being unpatentable over Lerman (U.S. Patent No. 5,604,789) in view of Holland et al.

Referring to claim 24, Lerman further teaches the wireless communications system including the fixed-site base station, the first fixed-site subscriber station, first and second communication signals and a second fixed-site, fixed wireless access communication system subscriber station (Column 3, Lines 38-42), the wireless communications system further comprising; a second local network radio transceiver positioned at the second fixed-site subscriber station (Figure 3, 44 & F(2ND)), wherein a mobile station receives fifth wireless signals from the fixed-site base station (Figure 3, F(CONVERSION) downlink and Column 3, Lines 38-42) and selectively transmits sixth wireless signals to a mobile station (Figure 3, F(2ND) downlink and Column 3, Lines 38-42), and receives seventh wireless signals from the mobile station (Figure 3, F(2ND) uplink and Column 3, Lines 38-42) and selectively transmits eighth wireless signals to the fixed-site base station (Figure 3, F(CONVERSION) uplink and Column 3, Lines 38-42), but does not teach handing off to a second local network radio transceiver, when the mobile station is positioned outside a selected range of the first fixed-site subscriber station and within a selected range of the second fixed-site subscriber station.

Holland et al. teaches handing off to a second local network radio transceiver, when the mobile station is positioned outside a selected range of the first fixed-site subscriber station and within a selected range of the second fixed-site subscriber station (Column 1, Lines 2-31, Column 3, Lines 47-56 and Figure 1). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Lerman with the teaching of Holland et al. of handing off to a second local network radio transceiver, when the mobile station is positioned outside a selected range of the first fixed-site subscriber station and

within a selected range of the second fixed-site subscriber station to maintain an established communication link when the mobile phone moves from one cell unit to another (Column 1, Lines 27-31).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone numbers for the organization where this application or proceeding is

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assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

A handwritten signature in black ink, appearing to read 'James Ewart', with a stylized, flowing script.

James Ewart
March 11, 2007

A handwritten signature in black ink, appearing to read 'William Trost', with a stylized, flowing script.

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600